

REMARKS

By the present Amendment, Applicant has amended claims 1-2 to more appropriately define the invention. Claims 1-2 are pending.

On the returned Form PTO 1449, the Examiner indicated that two references submitted by Applicants on February 11, 2004, were not available. Applicants attach a copy of Korean Patent Publication No. 92-13606 and the Notice of Preliminary Rejection from the Korean Intellectual Property Office dated June 30, 2003, together with an English abstract of the Korean patent publication and an English translation of the Notice of Preliminary Rejection. A copy of the Form PTO 1449 filed on February 11, 2004, is also attached for the Examiner's reference.

In the Office Action, the Examiner stated that the title of the invention is not descriptive and required a new title. Accordingly, Applicant has amended the title.

The Examiner rejected claim 2 under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicant submits that the amendment to claim 2 should overcome this rejection and requests that the rejection be withdrawn.

The Examiner rejected claims 1-2 under 35 U.S.C. § 102(e) as anticipated by Ku et al. (U.S. Patent No. 6,528,363). Applicant respectfully traverses this rejection.

In order to properly anticipate Applicant's claimed invention under 35 U.S.C. §102, each and every element of the claim in issue must be found, "either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.

Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).” See M.P.E.P. § 2131, 8th ed., Rev. of May 2004.

Claim 1 recites a method for forming a T-shaped conductive wire of a semiconductor device that comprises, among other things, etching a lower portion of a side wall of a silicon layer by using a notching phenomenon based on a difference between an etching rate of a silicon layer and an etching rate of a lower film to form a T-shaped silicon layer pattern; and forming a T-shaped conductive wire based on the T-shaped silicon layer pattern.

In the Office Action, the Examiner considered Ku et al.’s conductive layer 14 as corresponding to both the T-shaped silicon layer pattern and the T-shaped conductive wire as claimed by Applicant. Applicant disagrees. Applicant submits that Ku et al.’s conductive layer 14 does not correspond to either the T-shaped silicon layer pattern or the T-shaped conductive wire as claimed by Applicant.

First, Ku et al.’s conductive layer 14 cannot correspond to Applicant’s claimed T-shaped silicon layer pattern. As Ku et al. discloses, “an anisotropic etching step [is performed] in which the conductive layer [14] not protected by the mask is thinned to a predetermined thickness. . . . The structure containing thinned conductive layer 15 and conductive feature 20 having substantially vertical sidewalls 22 is shown . . . in Fig. 3.” Ku et al., col. 5, ll. 31-40. Next, “passivating layer 24 is formed at least on substantially vertical sidewalls 22 of the previously formed conductive feature 20.” Id., col. 5, l. 67 - col. 6, l. 2, and Fig. 4. Then, “an isotropic etching process [] removes the remaining thinned conductive layer [14] not protected by the mask exposing a lower portion of the conductive feature . . . , while simultaneously removing notched regions in

the lower portion of the conductive feature. The resultant structure including notched region 26 is shown . . . in Fig. 6.” Id., col. 6, ll. 48-3. Clearly, the notches 26 of Ku et al. are not formed utilizing the notching phenomenon, but rather through an isotropic etching process. Therefore, Ku et al.’s conductive layer 14 is not formed utilizing the notching phenomenon and cannot correspond to Applicant’s claimed T-shaped silicon layer pattern.

Second, Ku et al.’s conductive layer 14 cannot correspond to Applicant’s claimed T-shaped conductive wire, because Ku et al.’s conductive layer 14 is not formed based on a T-shaped silicon layer pattern, where the T-shaped silicon layer pattern is formed by “etching a lower portion of a side wall of a silicon layer by using a notching phenomenon based on a difference between an etching rate of a silicon layer and an etching rate of a lower film,” as recited in claim 1.

Therefore, Ku et al. fails to teach at least “etching a lower portion of a side wall of a silicon layer by using a notching phenomenon based on a difference between an etching rate of a silicon layer and an etching rate of a lower film to form a T-shaped silicon layer pattern; and forming a T-shaped conductive wire based on the T-shaped silicon layer pattern,” as recited in claim 1. Accordingly, claim 1 is patentable over Ku et al.

Claim 2 depends from claim 1 and is also patentable at least for the same reason as claim 1. Applicants respectfully request that the Examiner withdraw the rejection of claims 1-2 under 35 U.S.C. § 102(e).


In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of pending claims 1-2.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: February 16, 2005

By: 
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* With limited recognition under 37 C.F.R. § 10.9(b).